DELTA WETLANDS PROJECT

May 9, 2008

Delta Vision Blue Ribbon Task Force
John Kirlin, Delta Vision Executive Director
California Resources Agency
1416 Ninth Street
Sacramento, CA 95814

The Delta Vision Blue Ribbon Task Force has issued an Invitation to Participate in Developing alternative Elements of the Strategic Plan. This memo responds to that request, most particularly with respect to the elements of "governance and strategic finance," and "reliable water for California." Specifically, the Delta Wetlands Project generates water supply benefits and economic value sufficient to provide financing for levee improvements that are critical to sustaining the Delta land form.

The Delta Wetlands Project is the largest consolidated land holding in the Delta, consisting of Bouldin Island, Webb Tract, Holland Tract and Bacon Island. Together, these islands total 20,000 acres protected by 56 miles of levees. It is literally true that there can be no vision of the Delta that does not include these

Anson B. Moran, General Manager
1660 Olympic Blvd., Suite 350
Walnut Creek, CA 94596
Telephone (415) 730-5637

islands. More to the point, the Delta Wetlands development plan supports the Delta Vision and its 12 recommendations, and employs strategies that are generally useful to achieving the Delta Vision as a whole. Together with islands currently under public ownership or management, the Delta Wetlands Project could be the physical and strategic foundation for a sustainable future Delta.

The Delta Vision Stakeholders Coordinating Group issued its recommendations, including two emerging visions, in August 2007. Their "Flexible Delta" vision explicitly included the Delta Wetlands project noting that, "Water could be stored on Webb Tract and Bacon Island for release to Middle River for in-Delta use and export, or to Old River to augment flow and manage salinity and carbon levels. This stored water allows greater flexibility in the management of both the water system and the Delta ecosystem." It was also noted that Webb Tract and Bacon Island would be a central physical element for the separation of Old and Middle Rivers considered in the "Delta Corridors," and "Eco Crescent" proposals that were central to both visions.

On March 10, 2008, I submitted a paper to the Blue Ribbon Task Force titled, "Sustaining the Delta Land Form." That paper made two points:

- Unlike some problems facing the Delta, stabilizing the Delta land form is within our competence to do with a high degree of confidence, and;
- The ability to afford such fixes will be enhanced by supporting land uses that add economic value to the Delta.

The remainder of this memo provides specific details on how implementation of the Delta Wetlands Project would support a strategy for establishing a physically and financially sustainable Delta, and specifically the recommendations of the Blue Ribbon Task Force.

The Delta ecosystem and a reliable water supply for California are the primary, coequal goals for sustainable management of the Delta. (Recommendation 1)

A revitalized Delta ecosystem will require reduced diversions—or changes in patterns and timing of those diversions upstream, within the Delta, and exported from the Delta—at critical times. (Recommendation 7)

The Delta Wetlands Project has a 50/50 split of its islands between water supply and ecosystem improvement.

Two Delta Wetlands islands, Webb Tract and Bacon Island, would be used for water storage. These facilities produce additional water yield by storing water when it is available and releasing water when it is needed for in-Delta uses or when there is export pumping capacity. This ability is increasingly valuable when inflows are reduced and when pumping windows are restricted.

The two remaining islands, Bouldin Island and Holland Tract, would be dedicated for managed open space under a Habitat Management Plan developed in cooperation with the California Department of Fish and Game.

New facilities for conveyance and storage, and better linkage between the two, are needed to better manage California's water resources for both the estuary and exports. (Recommendation 8)

Major investments in the California Delta and the statewide water management system must integrate and be consistent with specific policies in this vision. In particular, these strategic investments must strengthen selected levees, improve floodplain management, and improve water circulation and quality. (Recommendation 9)

Discouraging inappropriate urbanization of the Delta is critical both to preserve the Delta's unique character and to ensure adequate public safety. (Recommendation 11)

Each of the four Delta Wetlands islands supports the Delta Vision in specific ways. Together, they would operate in the integrated, strategic manner contemplated in the Delta Vision. By dedication to water storage and habitat uses, these islands create economic value without urbanization.

Webb Tract: Webb Tract is one of the eight islands in the western Delta that are important as a salinity barrier for the Delta. It is highly subsided and difficult to farm due to limited transportation access. To be effective as a salinity barrier, its levees should be improved to an expensive, "seismically reparable" standard. In order to serve as a reservoir island, Webb Tract levees would be improved to a level consistent with current thinking about what is seismically reparable. The cost of these capital improvements is included in project costs.

Bacon Island: Bacon Island is near the export pumps and is bordered on the east by Middle River, and on the west by Old River. Current thinking about improvements necessary to maintain an emergency water conveyance pathway through the Delta includes improving Bacon Island levees on the east and south sides of the island to an expensive, "seismically reparable" standard. Bacon Island also supports PG&E natural gas pipelines from their well fields on McDonald Island. In order to serve as a reservoir island, Bacon Island levees would be improved to a level consistent with current thinking about what is seismically reparable. These improved levees serve the twin purposes of water storage and conveyance. The cost of these capital improvements is included in project costs.

Webb Tract and Bacon Island are both integral to the proposed separation of Old and Middle Rivers.

Bouldin Island: Bouldin Island is currently being farmed and supports more than 4.5 miles of SR 12. Caltrans is currently designing improvements to SR 12 that would improve safety, but would not protect it against potential flooding or sea level rise. Such additional improvements would be very expensive and would deplete available highway funds needed elsewhere. The Delta Wetlands project would improve Bouldin Island levees to PL 84-99 standards. The cost of these capital improvements is included in project costs.

Holland Tract: Delta Wetlands owns most, but not all of Holland Tract. It is currently being farmed and has 36 acres managed as part of a National Resource Conservation Service Wetland Program. The Delta Wetlands project would manage Holland Tract and Bouldin Island pursuant to a Habitat Management Plan developed in cooperation with the California Department of Fish and Game. That plan provides for improved recreation facilities and the development of essential habitat. The Delta Wetlands Project creates 9,000 acres of new, managed habitat in the Delta, 4,198 of which would meet 14 specific Ecosystem Restoration Program habitat targets. In addition, 56 miles of Delta levees on the reservoir and habitat islands could be made available to implement new levee management practices to enhance levee habitat values. Holland Tract levees would be improved to PL 84-99 standards. The cost of these capital improvements is included in project costs.

Additional Information

1. A one page project overview is attached.
2. CALFED's Integrated Storage Investigations for In-Delta Storage have produced 27 technical and cost reports on the Delta Wetlands Project and related issues. This

body of work is more than sufficient to provide detail appropriate for a strategic plan. A list of these reports as well as other key permitting and CEQA documents is attached in the document titled "Project Permits & Approvals." Copies of these reports and additional information are available from CALFED (http://www.calwater.ca.gov/calfed/oversight/calfed_Oversight_WS.html) and Delta Wetlands (http://www.deltawetlands.com/technical_info.htm) web sites.

3. Also attached for reference is the March 10, 2008 memo to John Kirlin referenced in this memo and previously provided to the Blue Ribbon Task Force.

Respectfully Submitted,

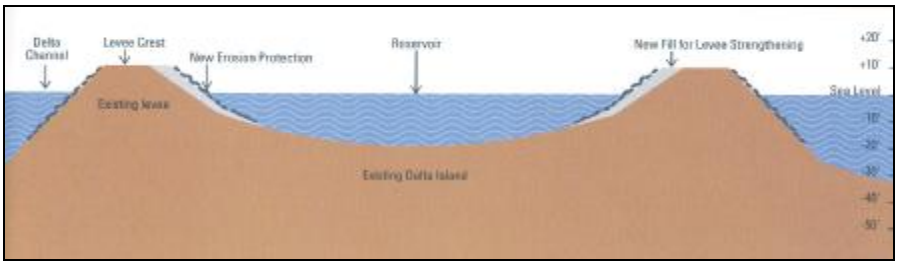
Anson B. Moran, General Manager

D E L T A W E T L A N D S P R O J E C T

OVERVIEW

Delta Wetlands Properties is the largest private landowner in the Delta. It owns 20,000 acres on four Delta islands; Webb, Bouldin, Holland and Bacon. It is responsible for the maintenance of 56 miles of levees.

The Delta Wetlands islands are currently being farmed. They are proposed to be developed as a water project with two islands being turned into reservoirs (light blue at right) and two being converted to wetlands and open space (green at right).



Project islands are below mean sea level because of past subsidence. Reservoir islands would be formed by strengthening island levees, armoring their interior, and constructing intake/outlet pumping facilities.

1660 Olympic Blvd., Suite 350 Walnut Creek, CA 94596 Telephone (415) 730-5637

DELTA WETLANDS PROJECT

PERMITS, STUDIES & APPROVALS

The Delta Wetlands Project is the most thoroughly examined and fully understood of all CALFED surface water storage projects.

1. **California State Permits**
   a. SWRCB Decision 1643, 02/15/01
   b. SWRCB Water Rights Permits (set aside by court order pending consideration of place of use), 06/05/01
   c. SHPO Programmatic Agreement, 12/22/97
2. **Federal Permits**
   a. SWRCB 401 Certification, 09/20/01
   b. USACE Record of Decision, 06/25/02
   c. USACE 404 Permit, 09/20/01
3. **Biological Opinions**
   a. DFG Incidental Take Permit, 06/06/01
   b. USFWS Biological Opinion - Delta Smelt, 06/06/97
   c. USFWS Conference Opinion – Sacramento Splittail, 04/26/00
   d. NMFS Biological Opinion - Winter Run Salmon, 06/07/97
   e. NMFS Conference Opinion - Steelhead Trout, 06/26/97
   f. NMFS Biological Opinion - Spring Run Chinook Salmon, 08/29/00
4. **Agreements / Stipulations**
   a. Amador County and Delta Wetlands, 07/23/97
   b. California Urban Water Agencies and Delta Wetlands, 10/09/00
   c. Contra Costa Water District and Delta Wetlands, 10/09/00
   d. Department of Water Resources and Delta Wetlands, 07/23/97
   e. East Bay Municipal Utility District and Delta Wetlands, 09/13/00
   f. North Delta Water Agency and Delta Wetlands, 06/04/97
   g. City of Stockton and Delta Wetlands, 07/08/97
   h. Bureau of Reclamations and Delta Wetlands, 07/02/97
5. **Delta Wetlands EIR/S**
   a. Draft EIR/S, September 1995
   b. Revised EIR/S, May 2000
   c. Final EIR, January 2001
   d. Final EIS, July 2001
6. **In-Delta Storage State Feasibility Study**
   a. Draft Executive Summary, January 2004
   b. Draft Summary Report, January 2004
   c. CALFED Science Panel Review, August 20, 2003
   d. Integrated Facilities Engineering Design and Analyses, July 2003
   e. Draft Engineering Investigations Summary, July 2003
   f. Draft Environmental Evaluations, July 2003
   g. Draft Report on Economic Analyses, January 2004
   h. Draft Report on Operations, December 2003
   i. Draft Report on Water Quality, December 2003
   j. Results of Geologic Exploration Program, January 2003
   k. Results of Laboratory Testing Program, January 2003
   l. Reservoir Stratification Study, by Flow Science Inc., July 23, 2003
   m. Integrated Facility Structures, Construction Cost Estimate, by CH2MHill, May 2003
   n. Borrow Area Geotechnical Report by URS, April 2003
   o. Earthwork Construction Cost Estimate by URS, June 2003
   p. Embankment Design Analysis by URS, June 2003
   q. Flooding Analysis by URS, June 2003
   r. Risk Analysis by URS, June 2003
   s. Seismic Analysis by URS, June '03
7. 2006 Supplement to 2004 Report
   a. Final Supplemental Report (May

	2006 b. Groundwater Monitoring Jones Tract Flood Sacramento-San Joaquin Delta c. Lowney Associates Piezometer Installation Report d. Review of Delta Wetlands Water Quality: Release and Generation of Dissolved Organic Carbon from Flooded Peatlands e. In-Delta Storage Program Risk Management f. In-Delta Storage Program Seepage Calibration Study g. In-Delta Storage Program Integrated Facilities Supplemental Structural Engineering Design and Analysis h. Proposed Integrated Facility at Webb Tract Supplemental Geotechnical Exploration

D E L T A W E T L A N D S P R O J E C T

March 10, 2008

John Kirlin, Delta Vision Executive Director
California Resources Agency
1416 Ninth Street
Sacramento, CA 95814

RE: Delta as Place and Strategic Finance

Dear Mr. Kirlin,

The following comments relate to the work of the Blue Ribbon Task Force, in the Delta as Place and Governance and Strategic Finance Workgroups. They make two points:

- Unlike some problems facing the Delta, stabilizing the Delta land form is within our competence to do with a high degree of confidence, and;
- The ability to afford such fixes will be enhanced by supporting land uses that add economic value to the Delta.

We believe that these facts suggest a direction for Delta policy. Challenges in pursuing such a policy direction include: determining compatible, high value land uses and activities, creating incentives for such uses and activities, and developing mechanisms to capture a portion of the value to fund sustainability efforts.

We will continue working with the Delta as Place and Governance and Strategic Finance Workgroups to further develop these concepts.

Sincerely,

Anson B. Moran
General Manager, Delta Wetlands
Member, Delta Vision Stakeholder Coordinating Group

Anson B. Moran, General Manager
1660 Olympic Blvd., Suite 350
Walnut Creek, CA 94596
Telephone (415) 730-5637

Sustaining the Delta Land Form

A great deal of public and political attention has been drawn to the fact that the existing Delta land form is threatened. Factors contributing to this threat include sea level rise, subsidence due to oxidation of peat soils, increasing flood risk due to global warming, and seismicity. Drs. Mount and Twiss of the University of California estimated the probability of a massive change to the Delta landscape in the next 50 years as 67% if we continue with current management practices. That is sobering. And, in conjunction with the memory of hurricane Katrina, it is alarming.

Failure of the physical Delta is just one of the threats facing the Delta. Declining pelagic and anadromous fisheries, loss of wetlands important to aquatic and terrestrial species, and the impact of impaired water quality on agricultural operations are examples of others.

These combined threats prompted the Governor to establish a Blue Ribbon Task Force (Task Force) to develop a long term plan for dealing with the Delta. Their first product is a vision statement that establishes the Delta ecosystem and a reliable water supply as co-equal goals, and recognizing that the Delta is a unique and valued area deserving of special protection.

The most remarkable aspect of the testimony submitted to the Task Force is the fact that we don't know how to fix the ecosystem. For all of the academic and in-the-Delta experience, we just don't understand what is causing population declines. And, we don't know what to do to fix it. We have science based theories and strategies, but no certain knowledge to apply.

This is in distinct contrast to the problem of stabilizing the Delta land form. We know much more about dirt than we do about fish. We know that we can change current land management practices and engineer physical solutions that will stabilize the Delta land form. The Dutch provide us with one example. The problem presented by such physical solutions is their cost.

Analysis of the economic impact of a failed Delta is dominated by the potential impact on water supplies to much of California. In 2006, DWR estimated the economic impact of a 30 breech scenario at between $30 and $40 billion over five years. This leads to two branches of thought. The first is the importance, and economic value of taking steps to make sure that such a failure doesn't happen. The second, is to justify various forms of self-help activities by those who are most threatened by a failure, to minimize the impact of such a failure. Examples of the former are investments in upgrades and maintenance of levees, and emergency response. Examples of the latter are regional self-sufficiency projects and

the renewed consideration of some form of isolated conveyance facility circumventing the Delta. All of these alternatives are expensive.

Financing Strategy

In essence, the problem of sustaining the Delta land form is an economic one. Dr. Seed has observed that initial estimates of the cost of strengthening levees will most likely come down as more attention is paid to the problem and more creative alternatives are identified. Contributing to cost containment is the increasing realization that not all levees require the same degree of improvement. Over time, we can expect that improvements in engineering and strategy will reduce the cost of stabilizing the Delta land form. The remaining question will be, how to pay for it.

Some have worried that the inevitable result of this economic pressure is either abandonment of the Delta, or the conversion of Delta land use to residential development as the only land use capable of sustaining the burden of levee upgrades and maintenance. This latter prospect is viewed with alarm by many because of its likely impact on environmental and community values as well as the residual risk posed to life and property.

What is right about the development solution is the notion that one way of paying for sustaining the Delta land form is to promote land uses and projects that create significant economic value in the Delta. Non-residential versions of that are habitat restoration, water storage, carbon farming, smelt rearing, boating, fishing, hunting, eco-tourism, transportation, water conveyance, and utility easements. Rather than transitioning such activities out of the Delta in the name of risk avoidance, we should consider a policy of promoting such activities as a way of creating economic value and taking some of the sting out of a "beneficiaries pay" policy.

We believe that this is generically true and can provide the starting point for a policy to economically sustain the physical Delta. As one specific example, development of the Delta Wetlands Project, would finance improvements to 56 miles of levees, stop subsidence on 20,000 acres on four islands in the central Delta, and provide value from water deliveries, carbon reduction, boating, fishing, hunting and habitat improvements.